DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: TUCKER POND	Lake Area (ha): 22.90
Town: SALISBURY	Maximum depth (m): 6.7
County: Merrimack	Mean depth (m): 2.0
River Basin: Merrimack	Volume (m^3) : 449500
Latitude: 43°20'18" N	Relative depth: 1.2
Longitude: 71°48'12" W	Shore configuration: 1.36
Elevation (ft): 675	Areal water load (m/yr): 4.16
Shore length (m): 2300	Flushing rate (yr^{-1}) : 2.10
Watershed area (ha): 196.8	P retention coeff.: 0.69
<pre>% watershed ponded: 0.0</pre>	Lake type: natural w/dam

BIOLOGICAL:	19 January 1999	9 September 1998
DOM. PHYTOPLANKTON (% TOTAL) #1	UROGLENOPSIS 85%	CHRYSOSPHAERELLA 85%
#2	DINOBRYON 8%	DINOBRYON 7%
#3		
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		3.27
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 74%	NAUPLIUS LARVA 29%
#2		POLYARTHRA 22%
#3		CYCLOPOID COPEPOD 17%
ROTIFERS/LITER	149	80
MICROCRUSTACEA/LITER	11	104
ZOOPLANKTON ABUNDANCE (#/L)	178	184
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		4.0
BOTTOM DISSOLVED OXYGEN (mg/L)	11.1	1.2
BACTERIA (E. coli, #/100 ml) #1		1
#2		
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None Anoxic volume (m³): None

CHEMICAL:			TUCKER PO		
	19 Janua	ary 1999	9 8	September	1998
DEPTH (m)	2.0	4.0	2.0		5.0
pH (units)	6.0	6.2	6.8		6.6
A.N.C. (Alkalinity)	2.8	5.9	3.5		3.4
NITRATE NITROGEN	0.14	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.40	0.20		0.30
TOTAL PHOSPHORUS	0.005	0.006	0.006		<0.001
CONDUCTIVITY (µmhos/cm)	26.1	33.3	26.7		27.0
APPARENT COLOR (cpu)	7	8	7		8
MAGNESIUM			0.41		
CALCIUM			1.6		
SODIUM			2.6		
POTASSIUM			0.44		
CHLORIDE	2	3	2		2
SULFATE	3	3	3		3
TN : TP	88	67	33		
CALCITE SATURATION INDEX			3.8		

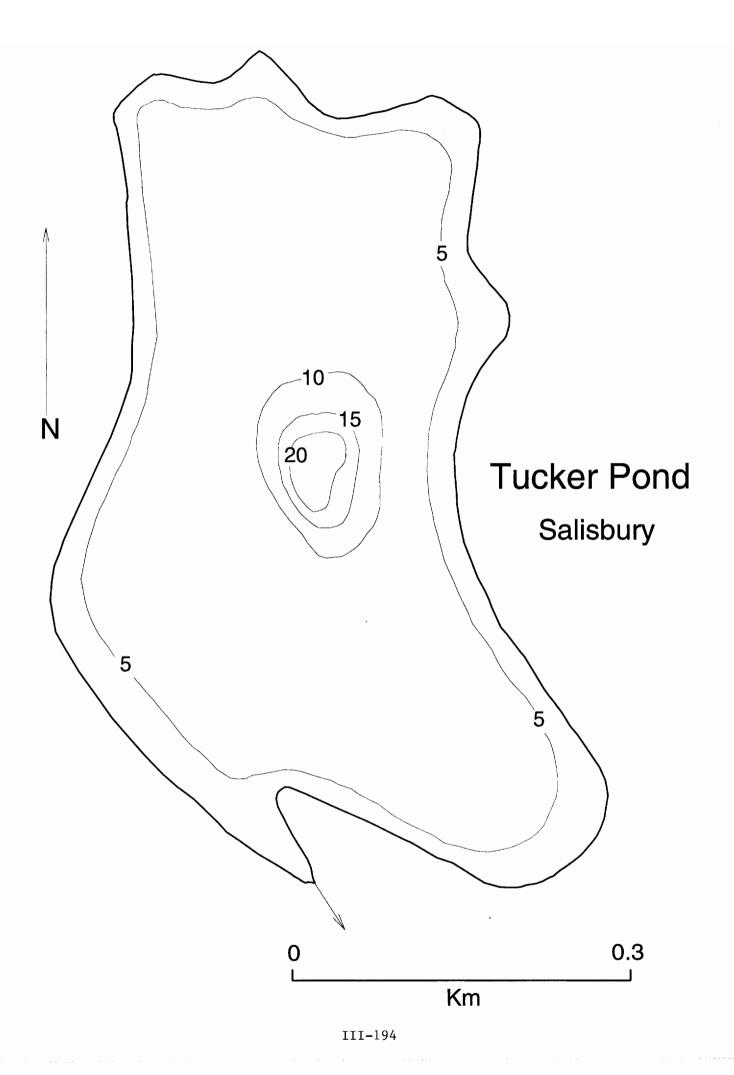
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	5	0	7	Meso.

COMMENTS:

- 1. Tucker Pond was previously surveyed and classified in 1980. The pond was classified as oligotrophic at that time. The major trophic change between the two years was in plant abundance, going from common to abundant.
- 2. The pond has participated in VLAP since 1986 and has shown a stable trend in chlorophyll and Secchi depth and an improving trend in phosphorus during that time.
- 3. The phosphorus concentrations were much less in 1998 compared to 1980. Despite the nuisance of bladderwort, it may be that much of the phosphorus in the pond is tied up in bladderwort biomass. Raking the bladderwort from the pond will help remove phosphorus from the lake.



FIELD DATA SHEET

LAKE: TUCKER POND

DATE: 09/09/1998

TOWN: SALISBURY

WEATHER: CLOUDY, COOL & BREEZY

DEPTH (M)	ТЕМР (°С)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	21.0	8.2	92 %
1.0	21.0	8.2	92 %
2.0	21.0	8.2	92 %
3.0	20.9	8.0	88 %
4.0	20.9	8.1	89 %
5.0	20.8	7.8	84 %
6.0	18.2	1.2	13 %
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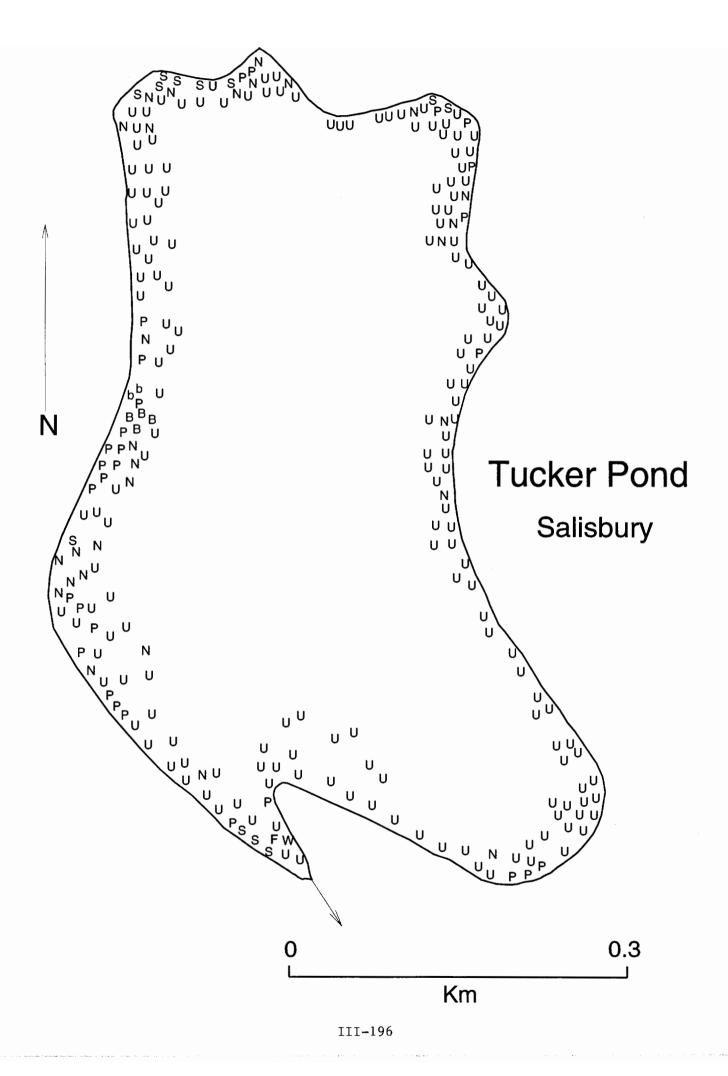
SECCHI DISK (m): 4.0

COMMENTS:

BOTTOM DEPTH (m): 6.5

TIME: 1100

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: TUCKER POND	TOWN: SALISBURY	DATE: 09/09/1998
Key	PLANT	ABUNDANCE	
	GENERIC	COMMON	ABONDANCE
U	Utricularia	Bladderwort	Abundant
N	Nymphaea	White water lily	Scattered
S	Sparganium	Bur reed	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
F	Nymphoides cordatum	Floating heart	Sparse
W	Potamogeton	Pondweed	Sparse
В	Brasenia schreberi	Water shield	Sparse
b	Scirpus	Bulrush	Sparse
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	100000		

OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

- 1. Bladderwort was very common around most of the shoreline and it came up on the anchor at the deep spot. It is likely over most of the pond bottom.
- 2. Bladderwort is the reason for the overall 'abundant' rating; all other plants were sparse or scattered.